WHAT IS CLAIMED IS:

1. An integrated circuit for providing a switchover from a primary power source to a secondary power source, the integrated circuit comprising:

a power source switchover circuit for detecting the supply level of the primary power source and a voltage threshold, the power source switchover circuit having a plurality of input terminals, a first input terminal selectively electrically coupled to the primary power source and a second input terminal selectively electrically coupled to the secondary power source, the power source switchover circuit further having a plurality of output terminals;

a comparator, electrically coupled to the power source switchover circuit, for indicating that the supply level of the primary power source has decreased below the voltage threshold, the comparator having a first and a second input terminal connected to a first and a second output terminal of the power source switchover circuit, respectively, the comparator further having an output terminal;

a forced power source switchover circuit for detecting that the supply level being received from the primary power

source by the integrated circuit drops below a predefined threshold level, the forced power source switchover circuit having at least one input terminal and at least one output terminal, one input terminal being electrically connected to the primary power source; and

a switchover circuit for initiating a switchover operation based upon the indication from the comparator or upon an indication that the forced power source switchover circuit detects that the supply level being received from the primary power source by the integrated circuit drops below the predefined threshold level, the switchover logic circuit having a first input terminal connected to the output terminal of the comparator and a second input terminal connected to one output terminal of the forced power source switchover circuit.

2. The integrated circuit according to claim 1, wherein the forced power source switchover circuit is reactive to the supply level of the primary power source transitioning from a steady-state supply level to below the predefined threshold level, the supply level transitioning faster than a predetermined negative rate of change.

3. The integrated circuit according to claim 2, wherein the negative rate of change is approximately 150 microseconds.

4. The integrated circuit according to claim 1, further comprising circuitry connected to the power source switchover circuit for selectively adjusting the indicating signal produced by the comparator.

5. The integrated circuit according to claim 1, further comprising circuitry connected to the forced power source switchover circuit for selectively adjusting the first predefined threshold level.

6. The integrated circuit according to claim 1, further comprising a plurality of input terminals for receiving input signals to configure the switchover logic circuit to selectively adjust the predefined threshold level.

7. The integrated circuit according to claim 1, further comprising a delay circuit for providing a time duration for the substrate of the integrated circuit to settle from a first voltage potential to a second voltage potential upon the switchover from the secondary power source to the primary power source.

8. The integrated circuit according to claim 1, wherein the predefined threshold level detected by the forced power source switchover circuit is below the crossing level of the supply level of the primary power source and the voltage threshold.

9. A method for performing a power source switchover from a primary power source to a secondary power source, the method comprising the steps of:

detecting that a supply level being received from the primary power source decreases below a predefined threshold level from a steady-state operating level, the supply level transitioning faster than a predetermined negative rate of change;

asserting a signal indicating to switch from the primary power source to the secondary power source upon detecting that the supply level being delivered from the primary power source has decreased below the predefined threshold level;

detecting the signal indicating to switch from the primary power source to the secondary power source; and

switching from the primary power source to the secondary power source based upon detecting the signal indicating to force a power source switchover.

10. The method according to claim 9, wherein the primary power source is an external power source.

11. The method according to claim 9, wherein the secondary power source is a battery.

12. The method according to claim 9, wherein the predefined threshold level is below 2.5 volts.

13. The method according to claim 9, wherein the negative rate of change is approximately 150 microseconds.

14. The method according to claim 9, further comprising the steps of:

detecting the supply level being delivered from the primary power source;

detecting a voltage potential of a substrate of an integrated circuit; and

producing a compare signal indicative of the relative values between the detected supply level being delivered from the primary power source and the voltage potential of the substrate.

15. The method according to claim 14, further comprising the steps of:

receiving the compare signal and the signal indicating to force the power source switchover;

determining an occurrence of a transition of either the compare signal or the signal indicating to force the power source switchover; and

initiating a switch from the primary power source to the secondary power source upon the determination of the occurrence of a transition of the compare signal or the signal indicating to force the power source switchover.

16. A circuit comprising:

a first detection circuit for detecting a supply level decrease of a power level from a primary power source, the supply level transitioning from a steady-state supply level to a predefined threshold level faster than a predetermined negative rate of change, the first circuit generating at least one signal in response to the supply level decreasing to the predefined threshold level; and

a first switching circuit for switching from the primary power source to a secondary power source in response to the at least one signal.

17. The circuit according to claim 16, wherein the primary power source is an external power source.

18. The circuit according to claim 16, wherein the secondary power source is a battery.

19. The circuit according to claim 16, wherein the predetermined negative rate of change is approximately 150 microseconds.

20. The circuit according to claim 16, further comprising circuitry for adjusting a response time for the first detection circuit.

21. The circuit according to claim 16, further comprising:

a second detection circuit for detecting a voltage threshold of the power source switchover circuit and the supply level being received from the primary power source, the second detection circuit producing a plurality of signals based upon the detecting; and

a second switching circuit for switching from the primary power source to the secondary power source in response to the plurality of signals based upon the detecting.

22. The circuit according to claim 21, further comprising circuitry for selectively responding to the first and the second detection circuits.

23. The circuit according to claim 21, further comprising an input terminal to selectively disable a switchover from the primary to the secondary power source.

24. A system comprising:

a volatile device for maintaining data, the volatile device receiving power delivered from a primary power source;

a forced power source switchover circuit for detecting a transition in a supply level from a primary power source, the forced power source switchover circuit reactive to the supply level of the primary power source transitioning from a steady-state operating level to a predefined threshold level, the supply level transitioning at a rate faster than a predetermined negative rate of change; and

a switchover circuit coupled to the forced power source switchover circuit and the volatile device for asserting a switch from the primary power source to a secondary power source to prevent the volatile device from losing data upon power being removed from the volatile device.

25. The system according to claim 24, wherein the predetermined negative rate of change is at most 150 microseconds.

26. The system according to claim 24, wherein the forced power switchover circuit provides an indication to the switchover circuit approximately at the instant of the primary power source crossing the predefined threshold level.

27. The system according to claim 24, further comprising a power source switchover circuit connected to the switchover circuit, the power source switchover circuit detecting that the power being delivered from the primary power source transitioning below a trip point, the transitioning occurring at a rate slower than the predetermined negative rate of change.

28. The system according to claim 24, wherein the system includes at least one of the following: a memory system, a computing system, a communication system, and a clock system.

29. The system according to claim 24, wherein the volatile device includes at least one of the following: a memory device and a clock device.

30. A circuit for providing an indication that a signal level of a primary power source transitions below a predefined threshold level, the circuit comprising:

a first transistor electrically coupled to a second transistor, a common node being formed along the coupling;

a third transistor having a gate terminal coupled to the common node;

at least one pair of series connected trimming transistors, a first transistor of the at least one pair of trimming transistors having a gate terminal coupled to the common node, the at least one pair of series connected trimming transistors coupled to a drain/source region of the third transistor.

31. The circuit according to claim 30, further including a fuse electrically coupled to a gate terminal of a second transistor of the at least one pair of trimming transistors, the fuse being blown to selectively turn on/off the second transistor of the at least one pair of trimming transistors.

32. The circuit according to claim 30, wherein the first transistor is coupled to the primary power source and a gate terminal of the second transistor is coupled to a substrate of the circuit.